

TABLE I.—Flood stages in the Atlantic drainage during month of July, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Pompton:</i> Pompton Plains, N. J.....	<i>Feet.</i> 8			<i>Feet.</i> 7.6	23
<i>James:</i> Richmond, Va.....	10	21	23	12.1	22
<i>Roanoke:</i> Randolph, Va.....	21	20	21	23.5	21
Weldon, N. C.....	30	18	26	45.2	23
<i>Dan:</i> Danville, Va.....	8	21	21	9.4	21
Clarksville, Va.....	12			11.7	22
<i>Tar:</i> Rocky Mount, N. C.....	9	21	27	15.5	24
Tarboro, N. C.....	18	23	(1)	37.0	27
Greenville, N. C.....	13	21	(1)	24.5	28
<i>Fish Creek:</i> Enfield, N. C.....	14	22	27	19.6	24
<i>Neuse:</i> Neuse, N. C.....	14	9	11	15.7	10
Do.....	14	17	27	24.8	24
Smithfield, N. C.....	14	19	29	26.4	24
<i>Cape Fear:</i> Elizabethtown, N. C.....	22	9	9	23.9	9
Do.....	22	19	29	34.2	25
Fayetteville, N. C.....	35	19	26	52.0	24
<i>Haw:</i> Monrovia, N. C.....	22	18	23	23.0	22
<i>Pee Dee:</i> Cheraw, S. C.....	27	20	25	36.3	23
<i>Lynches:</i> Effingham, S. C.....	14	26	31	16.0	29
<i>Black:</i> Kingstree, S. C.....	12	26	30	12.4	27-28
<i>Santee:</i> Rimint, S. C.....	12	(2)	4	14.2	30-1
Do.....	12	11	14	12.8	12-13
Do.....	12	19	(1)	23.3	26
Ferguson, S. C.....	12	(2)	5	13.3	1-2
Do.....	12	13	(1)	17.1	27
<i>Catawba:</i> Mount Holly, N. C.....	15	20	20	17.0	20
Catawba, S. C.....	11	20	23	20.8	23
<i>Wateree:</i> Camden, S. C.....	24	20	25	33.0	21
<i>Congaree:</i> Columbia, S. C.....	15	21	24	20.5	21
<i>Broad:</i> Blairs, S. C.....	15	20	23	18.4	21
<i>Saluda:</i> Pelzer, S. C.....	7	21	21	8.0	21
Chappells, S. C.....	14	20	23	18.5	21
<i>Edisto:</i> Edisto, S. C.....	6	23	(1)	7.8	26-28
<i>Oconee:</i> Milledgeville, Ga.....	22			21.4	25
Dublin, Ga.....	22			21.4	27
<i>Ocmulgee:</i> Macon, Ga.....	18			16.5	25
Abbeville, Ga.....	11	24	(1)	14.6	30

¹ Continued into June. ² Continued from June. ³ Continued into August.

TABLE II.—Flood stages in the east Gulf drainage during the month of July, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Flint:</i> Woodbury, Ga.....	<i>Feet.</i> 10			<i>Feet.</i> 8.2	25
Montezuma, Ga.....	20	27	27	20.0	27
Albany, Ga.....	20	28	(1)	24.1	31
Bainbridge, Ga.....	25			23.5	31
<i>Chattahoochee:</i> Eufaula, Ala.....	40			39.8	26
Alaga, Ala.....	30	26	28	35.3	27

¹ Continued into August.

TABLE III.—Flood stages in the Mississippi drainage during July, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Walhonding:</i> Walhonding, Ohio.....	<i>Feet.</i> 8			<i>Feet.</i> 11.8	20
<i>Kanawha:</i> Glenville, W. Va.....	22	17	17	24.0	17
<i>Elk:</i> Clay, W. Va.....	18			19.7	16
Gassaway, W. Va.....	24			23.9	16
<i>Illinois:</i> Beardstown, Ill.....	12	(1)	8	12.7	3-5

¹ Continued from June.

TABLE IV.—Flood stages in the west Gulf drainage during July, 1919.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
<i>Trinity:</i> Dallas, Tex.....	<i>Feet.</i> 25	20	26	<i>Feet.</i> 36.5	23
Liberty, Tex.....	25	(1)	7	27.0	3-4
<i>Trinidad:</i> Trinidad, Tex.....	28	29	(2)	32.4	31
<i>Sabine:</i> Bon Wier, Tex.....	20	(1)		19.0	1
<i>Neches:</i> Rockland, Tex.....	20	(1)	4	23.2	1
<i>Colorado:</i> Columbus, Tex.....	28	24	26	31.6	25
<i>Guadalupe:</i> Gonzales, Tex.....	22	24	25	28.8	24
Victoria, Tex.....	16	(1)	3	22.4	1
Do.....	16	23	29	23.5	28
<i>Rio Grande:</i> Rio Grande City, Tex.....	15	24	(2)	22.6	28

¹ Continued from June.

² Continued into August.

WATER SHORTAGE IN THE LOWER VALLEY OF THE COLORADO, JULY, 1919.

By F. H. BRANDENBURG, Meteorologist.

[Dated Denver, Colo., Aug. 8, 1919.]

The persistence of drought on the upper drainage of the Grand and throughout the drainage of the Green has had a marked effect on the discharge of the Colorado River. The winter's snow covering, having been much below the normal, sustained high temperatures during the latter part of May left but little for the summer run-off. Absence of rainfall on the watershed for several months was naturally reflected in the run-off, so that the Colorado reached a very low stage much earlier than usual. The volume discharged has been inadequate for the needs of the Imperial Valley which requires about 20,000 second-feet. This amount is less than the volume discharged in midsummer if not augmented by rainfall in Arizona and the mountain districts where summer rains, although local in character, are generally frequent and occasionally heavy. In the Palo Verde Valley 32,000 acres are under cultivation, 22,000 acres being in cotton, which will need another irrigation before the end of August.

MEAN LAKE LEVELS DURING JULY, 1919.

By UNITED STATES LAKE SURVEY.

[Dated Detroit, Mich., Aug. 5, 1919.]

The following data are reported in the Notice to Mariners of the above date:

Data.	Lakes. ¹			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during July, 1919:	<i>Feet.</i> 602.58	<i>Feet.</i> 581.34	<i>Feet.</i> 573.45	<i>Feet.</i> 247.75
Above mean sea level at New York.....				
Above or below—				
Mean stage of June, 1919.....	+ 0.13	— 0.16	— 0.32	— 0.20
Mean stage of July, 1919.....	+ 0.34	— 0.60	+ 0.86	+ 0.90
Average stage for July, last 10 years.....	+ 0.18	+ 0.45	+ 0.67	+ 0.96
Highest recorded July stage.....	— 1.24	— 2.24	— 0.96	— 0.97
Lowest recorded July stage.....	+ 1.10	+ 1.44	+ 1.99	+ 3.16
Average relation of the July level to—				
June level.....	+ 0.1	— 0.1	— 0.1	— 0.1
August level.....	— 0.0	+ 0.2	+ 0.2	+ 0.3

¹ Lake St. Clair's level: In July, 576.24 feet.